REMARKS

Claims 1-2, 4-5, 7-12, and 14-22 remain in this application. Claim 3, 6, and 13 are cancelled. Claims 1, 7, 8, 9, 10, 12, 18, 20, and 21 are currently amended. Claims 4, 5, and 16 have been previously presented.

Applicant thanks the Examiner for the detailed study of the application and prior art.

Also, Applicants note that an Information Disclosure Statement and PTO-1449A form was filed on April 4, 2005. The Final Office Action did not include the initialed copy of the PTO-1449A form indicating that the Examiner had considered the Information Disclosure Statement. Applicant submits with this Amendment a copy of the PTO-1449A form, and the Information Disclosure Statement document. Applicant requests an initialed copy for their records to complete the file.

Applicant also files a Request for Continued Examination (RCE) to continue prosecution.

Applicant notes the rejection of all claims as obvious over U.S. Patent No. 5,101,173 to DiPiazza et al. (hereinafter "DiPiazza"), or as obvious over DiPiazza in view of U.S. Patent No. 5,828,953 to Kawase, or DePiazza in view of U.S. Patent No. 5,977,826 to Behan et al. (hereinafter "Behan").

At the outset, Applicant has amended the independent claims 1 and 12 to place the case in condition for allowance

and recite that the self-tuned millimeter wave transceiver module is more than a MMIC chip with an amplifier controlled by a stored program controller and memory such as an EEPROM with feedback for attenuation control and phase shift control, using a phase and amplitude trimmer as disclosed in DiPiazza and suggested by the Examiner as an obvious modification.

The claimed invention is advantageous because manual amplifier probing and module tuning, and MMIC module manufacturing is eliminated. Amplifier adjustment and current sensing and detector output measurements can be implemented in a real-time continuous adjustment mode. The gain and output power of each amplifier can be controlled individually or in groups. This module can self-adjust its gain as a function of temperature changes by maintaining a preset current draw from each amplifier constant as module temperature changes.

Claim 1 recites the microwave monolithic integrated circuit (MMIC) having a plurality of amplifiers. The controller not only has a microprocessor and memory that includes stored values of preset MMIC characteristics at various stages in a radio frequency circuit, but also includes a digital potentiometer and current sensor that are operatively connected to each amplifier. A temperature sensor is operatively connected to the microprocessor. A preset current draw from each amplifier can be maintained constant as

module temperature changes to allow self-adjustment in amplifier gain as a function of temperature changes.

Nowhere does DiPiazza suggest the claimed combination of a digital potentiometer, current sensor and temperature sensor for allowing the present current draw from each amplifier that can be maintained constant as module temperature changes to allow self-adjustment in amplifier gain as a function of temperature changes.

DiPiazza at most teaches a stored program controller and installed "look-up" table to establish some optimum bias voltaging currents and maintain efficiency. The module insertion phase shift and/or gain requires trimming, which is also accommodated by the stored look-up table and the application of compensating bias to a gain and phase trim network as explained in column 5, starting at line 51-66. DiPiazza is directed to using the look-up table to enhance phase and gain trimming.

Kawase discloses some use of a central processing unit 14 in conjunction with the memory 12. Kawase, however, stores data for adjusting a drive voltage to a gate of an amplifier at a predetermined level based on command data received from a base station in a cellular network, allowing the output level of a transmitted signal from a mobile radio to be changed in accordance with the distance from the base

station with which the mobile radio is in communication. As operating conditions change, the transmission power changes.

Although some command decisions for power adjustment are received, nowhere does the combination of DiPiazza or Kawase suggest any type of self-tuned millimeter wave transceiver module having the MMIC and controller, including the microprocessor and memory as claimed, including a digital potentiometer and current sensor operatively connected to each amplifier, and a temperature sensor operatively connected to the microprocessor, such that a preset current draw from each amplifier can be maintained constant as module temperature changes to allow self-adjustment in amplifier gain as a function of temperature changes.

As to Behan, it discloses a feed-forward amplifier system. In this feed forward system, a temperature sensor provides control signals for a delay circuit as explained in column 10. Buffering is added. Amplitude and phase correction are operative with comparison and cancellation loops in this feed-forward amplifier system having first and second error amplifiers. There is no suggestion in Behan to control any millimeter wave transceiver module with self-tuning using the MMIC having a plurality of amplifiers, the controller that includes the microprocessor and memory with present MMIC characteristics, and the digital potentiometer and current sensor operatively connected to each amplifier,

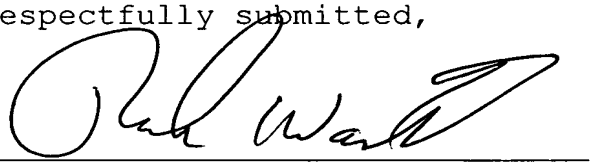
and a temperature sensor operatively connected to the microprocessor, wherein a preset current draw from each amplifier can be maintained constant as module temperature changes to allow self-adjustment in amplifier gain as a function of temperature changes.

At most, the combination of DiPiazza and Behan would suggest a MMIC chip with some type of controller having a processor and memory with a feed-forward loop system and first and second error amplifiers operative with amplitude and phase correction for the comparison and cancellation loops.

Applicant contends that the present case is in condition for allowance and respectfully requests that the Examiner issue a Notice of Allowance and Issue Fee Due.

If the Examiner has any questions or suggestions for placing this case in condition for allowance, the undersigned attorney would appreciate a telephone call.

Respectfully submitted,



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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: **MAIL STOP AF, COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA 22313-1450,** on this 5th day of October, 2005.

Julie Lalan